



# MINERAL POTENTIAL

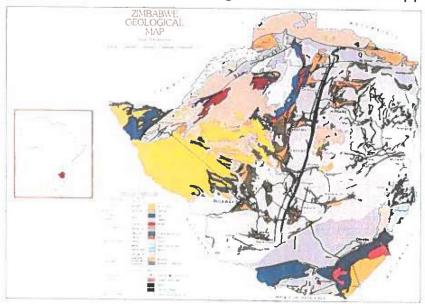
PROCEDURES & REQUIREMENTS OF ACQUIRING LICENSES
AND PERMITS IN TERMS OF THE MINES AND MINERALS ACT
(CHAPTER 21:05)

January 2018

# GOVERNMENT OF ZIMRARWE

### 1.0 ZIMBABWE'S MINERAL POTENTIAL

- 2.1.1 Zimbabwe has a huge and highly diversified mineral resource base dominated by prominent geological features, namely, an expansive craton, widespread greenstone belts (also known as gold belts), the famous Great Dyke, Precambrian and Karoo basins and metamorphic belts. As a result of its good geology, the country has huge mineral potential characterized by about 60 economic minerals whose commercial profitability has been proven.
- 1.2 The Great Dyke is a layered igneous complex extending north-south for about 550 km. The Great Dyke plays host to the world's largest high grade chromite resource base. Zimbabwe has the world's second largest resource of platinum group of metals as well as significant reserves of copper and nickel.



Geological Map of Zimbabwe

1.3 With rock ages spanning a period of more than 3 billion years, Zimbabwe's heterogeneous geological environment is favourable to occurrences of a variety of minerals and ore bodies. The following is an overview of some of the major minerals found in the country:

### Gold





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1.4 There are over 4 000 recorded gold deposits, nearly all of them located on ancient workings. The country remains under-explored to discover new deposits as well as realising full potential of known deposits. More than 90% of gold deposits in Zimbabwe are associated with greenstone belts which are some of the richest and comparable to those in some leading gold producing countries in the world like Australia, South Africa and Canada. Other gold deposits occur in the Limpopo Mobile Belt in the south of the country and in the Proterozoic Piriwiri rocks in the North Western part of the country, outside the Zimbabwe craton.

### **Diamonds**

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1.5 Diamond is a gemstone of enormous potential in Zimbabwe. Globally, diamond bearing kimberlites are commonly found in ancient cratons such as the Kaapvaal, the Siberia and the Congo. With similar geology to these areas, the well exposed Zimbabwe craton presents vast opportunities for kimberlitic diamond discoveries. The country has about 160 known kimberlites with kimberlite hosted diamond mining taking place at Murowa Mine in Zvishavane, Midlands Province and River Ranche Mine in Beitbridge, Matabeleland South Province. The recent discovery of significant placer diamond deposits in the Marange and Chimanimani areas, Manicaland Province, points to significant diamond potential in ancient basins across the country. If this resource is explored and mined extensively, it is believed that Zimbabwe has the potential of being a major player in global diamond production.

### **Platinum Group Metals**





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1.6 Zimbabwe hosts the second largest Platinum Group Metals (PGMs) resource in the world after South Africa. The bulk of the resource is on the Great Dyke which hosts about 2.8 billion tonnes of PGMs ore at 4g/t 4e. The grade and thickness of ore bodies persist over large areas. The Great Dyke has two PGM-bearing horizons, the Main Sulphide Zone (MSZ) and the Lower Sulphide Zone (LSZ). Currently, mining is on the MSZ. The LSZ is still to be investigated in greater detail, thus availing further opportunities for investors.

1.7



#### Coal





Zimbabwe hosts large reserves of coal in the Lower Karoo rocks of the mid Zambezi Basin and the Save-Limpopo basin. Over 29 coal localities are known with an estimated resource of more than 26 billion tonnes. Production was confined to coal fields in the Zambezi Valley but recently there has been limited coal production at the Sengwa coalfield near Gokwe, Mkwasine coalfield near Chiredzi and the Tuli coalfield near Beitbridge. The full potential of Zimbabwe's coalfields is yet to be exploited. The coal is high grade and suitable for both thermal power generation and coking purposes such as in metallurgical applications.

### Coal Bed Methane (CBM) Gas





1.9 Interest for Coal Bed Methane gas (CBM) exploration and development in Zimbabwe started in the early 1990s. Subsequent studies indicated that most coal basins in the country have physical conditions, such as coal seam thicknesses, coal rank and depth of the coal seam, suitable for CBM occurrences. As a result, a number of companies took up CBM exploration across the country's coal fields, revealing that the coal basins particularly in the western parts of the country have high potential for CBM with a national estimate of CBM resource of 40 trillion cubic feet (tcf) of over 95% purity. The potential for CBM in the country is huge and presents unique and competitive investment opportunities.

### **Natural Gas**



1.10 Mobil Exploration conducted Oil exploration from 1989 to 1993 in the Zambezi basin. Evaluating the survey data, it was concluded that the region could be characterised as gas prone with potential for liquid hydrocarbons as source rocks with liquid potential were also identified. The Lower Zambezi Basin with its depth of up to 10 000 metres is considered to be the most prospective. Mobil generated a lot of technical information on the whole of the Zambezi Valley, and the area has a potential of hosting 614 x 10<sup>9</sup> m³ (8 trillion cubic feet) of recoverable natural gas. Further investigation, including drilling is required to verify existence of the gas.

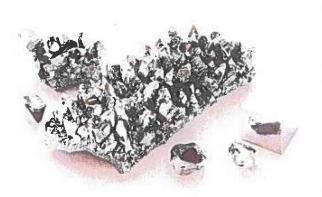
#### Uranium

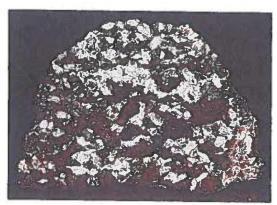


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and air surveys over small areas. A recent regional airborne radiometric survey flown over the Zambezi valley outlined 16 anomalies. The most potential prospect, the Kanyemba Prospect, was evaluated and reserves have been outlined. Uranium production has been limited to an output declared from the Cripmore claims south of Mutare between 1959 and 1960. At the Kanyemba deposit there are 4 ore bodies which are approximately parallel to each other with a spacing of 20-150m between them. The mineralization occurs in sedimentary rocks of the uppermost Pebbly Arkose Formation 10 to 25 metres thick. The deposit extends over an area of 1000 X 1500 m² and is 220m deep. The uranium and vanadium potential indicated by drilling is 450 000 tonnes of ore grading 0.7%  $\rm U_3O_8$  and 0.4%  $\rm V_2O_5$  with reserves ranging from 2876 tonnes to 3244 tonnes for  $\rm U_3O_8$  and between 2691tonnes and 4857 tonnes  $\rm V_2O_5$ .

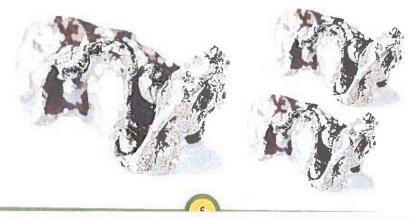
### Chrome





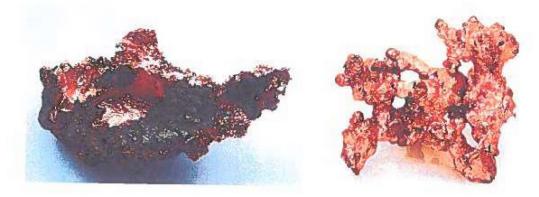
1.12 Chrome ore occurs in two distinct geological environments namely the Great Dyke and the greenstone belts. Chrome reserves on the Great Dyke approximate 10 Billion tonnes. Zimbabwe is estimated to host over 80% of the world's resource of metallurgical chrome, mainly on the Great Dyke with a chromic oxide range of 47% to 60% and chromium to iron ratios ranging between 2:2 and 4:1. Deposits hosted outside the Great Dyke occur in some ultramafic rocks of the Shurugwi, Mashava and Belingwe greenstone belts, and ultramafic bodies in the Limpopo Mobile Belt.

### **Nickel**



1.13 The geology of Zimbabwe is highly favourable for nickel occurrences. The country's nickel sulphide endowment includes a variety of komatiite and mafic intrusion-hosted deposits. More than 30 deposits have been discovered to date. Other sources of nickel are the huge laterite nickel deposits on the northern part of the Great Dyke and oxide nickel deposits in several serpentinite areas in greenstone belts as well as igneous complexes around the country.

### Copper



1.14 There are over 70 known deposits in Zimbabwe that have produced copper either as a primary or secondary product. The main producing area has been the Magondi Basin around Karoi, Mashonaland West Province, in an area stretching for over 150km. Similar copper deposits are found in the south-eastern part of the country, Manicaland Province, in the Umkondo Basin. Several copper prospects also occur in greenstone belts across the country.

#### Iron Ore

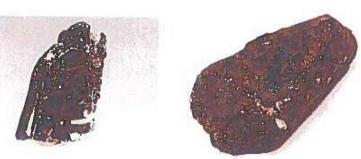


1.15 Zimbabwe has huge iron ore deposits associated with banded ironstone formations in greenstone belts. Major deposits are estimated to be over 30 billion tonnes of reserves. Some of the high-grade deposits are found at Buchwa and Ripple Creek, in the Midlands Province. Significant ironstone deposits include the huge Mwanesi deposit west of Chivhu and Nyuni near Masvingo. Manyoka and Mongula and several similar deposits in the Limpopo Mobile Belt also have huge potential.



1.16 Zimbabwe was ranked fourth in the World as a lithium producer in 1984. Nearly all production comes from the Bikita pegmatite of Archaean age, which is one of the largest lithium – bearing pegmatites in the world. Most of the Lithium has been produced from Archaeanpegmatites, although some amounts have been mined from pegmatites in the Proterozoic Zambezi Metamorphic belt around Kamativi. Five Lithium minerals are mined at Bikita and all have been produced from other pegmatites in Zimbabwe. The minerals are petalite, lepidolite, spodumene, eucryptite and amblygonite. Current investment projects include at Arcadia Mine in Arcturus by Prospect Resources (Pvt) Ltd and Zulu Lithium exploration project in Fort Rixon.

### **Tantalite**



1.17 Tantalum – Columbite was found in Zimbabwe in 1911, but it was not until 1937 that production commenced from the Bikita Tinfields. Tantalum and niobium occurrences in Zimbabwe are known to be associated with granitic pegmatites. In general, tantalum and niobium in Zimbabwe occurs in pegmatites in the eastern, north eastern and western parts of the country with several others doted across the country. Some notable resource areas include Hwange (Matabeleland North), Hurungwe (Mashonaland West), Mutoko – Mudzi (Mashonaland East) and Odzi (Manicaland Province)

### **Other Pegmatite Minerals**





1.18 Pegmatites, which are ubiquitous in several geological environments across the country, especially on the edges of greenstone and metamorphic belts, are a source of a variety of important minerals that include tin and wolframite, beryl, mica, feldspar, and gemstones such as emerald, aquamarine, chrysoberyl, alexandrite and euclase. In general, pegmatite minerals are prevalent in the eastern, north eastern and western parts of the country with several others doted across the country.

### Graphite



1.19 Graphite deposits in Zimbabwe are mainly found in the Proterozoic Piriwiri Group gneisses in the Hurungwe (Karoi) District, where they were formed by the high-grade metamorphism of rocks containing carbonaceous material. The quality of the graphite is known to improve with increase in metamorphic grade. Other deposits occur in the Proterozoic Dett Inlier in the Hwange area. Production of graphite in Zimbabwe has mainly been from Lynx mine in Karoi.

### **Dimension stones**



1.20 Granites, gneisses, migmatites, gabbro-norites, dolerite, marbles and quartzites suitable for use as dimension stones, are typical rocks belonging to Zimbabwe's geological environments. The most well-known dimension stone in Zimbabwe is the famous black granite ubiquitous in the north-eastern part of the country which has attracted considerable foreign investors.

# 2.0 ACCESSING MINERAL RIGHTS AND INVESTMENT OPPORTUNITIES IN ZIMBABWE

- 2.1 Foreign investors are allowed to own 100% shareholding for mining operations in all minerals except for platinum and diamonds which the foreign investor is expected to jointly own with Government on a 51%/49% basis.
- 2.2 Foreign investors are expected to register a company in Zimbabwe and possess an investment certificate issued by the Zimbabwe Investment Authority (Z.I.A) before starting operations. The company may then apply for mineral rights from the Ministry of Mines and Mining Development.
- 2.3 Any person who is a permanent resident of Zimbabwe and above the age of 18 may take out a prospecting license from any Provincial Mining Director for purposes of prospecting and registering mining claims.
- 2.4 Each Prospecting License is valid for two years.
- 2.5 A holder of a Prospecting License automatically acquires the rights of prospecting and pegging mining claims in Zimbabwe.

### 3.0 PROCEDURES AND CRITERIA OF OBTAINING MINING CLAIMS.

- 3.1 When a Prospecting License holder has identified a mineral deposit that he/she is interested in, he/she appoints an agent or an Approved Prospector to peg on his behalf.
- 3.2 The Agent is required to physically peg the area by marking the deposit with a Discovery Peg. He/She should also post Prospecting, Discovery and Registration Notices on the ground as guided by procedure. The notices must be posted in a conspicuous manner to alert other prospectors.
- 3.3 Before posting these notices the Agent is required to give written notice to the landowner of his intention to prospect.
- 3.4 All areas classified as not open to prospecting and pegging or reserved against prospecting and pegging cannot be pegged claims, e.g. cultivated lands, dip tanks, Dams, etc.



- 3.5 An application for registration must be submitted to the Ministry of Mines and Mining Development, Provincial Mining Director's offices, accompanied by copies of the following attachments:
  - (a) Prospecting licenses;
  - (b) Prospecting Notice;

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- (c) Discovery Notice (Base Minerals);
- (d) Notification of intention to prospect to the landowner;
- (e) A map in triplicate to the scale of 1:25000.
- 3.6 If the Provincial Mining Director is satisfied that all pegging procedures have been followed he shall issue a certificate of registration upon payment of the gazetted fee. This allows the holder to start mining operations subject to meeting other obligations such as environmental management
- 3.7 Within three months from the date of registration the miner is required to erect permanent beacons on the ground.
- 3.8 All precious mineral claims are supposed to be continuously worked on in order to obtain renewal of title. Claims have a 12 month tenure after which
- 3.9 If a mining claim is transferred or sold a Certificate of Registration After Transfer shall be issued by the Ministry of Mines and Mining Development.
- 3.10 Failure to renew title will result in the forfeiture of a mining claim. Furthermore loss of title may be through cancellation upon defaulting set minimum requirements or abandonment by the holder.

# 4.0 PROCEDURE AND CRITERIA FOR ISSUING EXCLUSIVE PROSPECTING ORDERS (EPOs)

- 4.1 Application is made to Secretary, Mining Affairs Board (MAB who:-
  - acknowledges receipt of application by date-stamping and assigning it an application number e.g. EPO 1/09 (or EPO Application No. 1 of 2009), EPO 2/09 denoting the sequence in which they were received and the year received.
  - also checks fulfillment of legal requirements of the application.
- 4.2 Procedures of acquiring an EPO are detailed on the table below:

Processing Steps for Exclusive Prospecting Orders

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		MAB Secretariat /Legal Services	Zimbabwe Geological Survey [ZGS]	MAB chaired by the Permanent Secretary	Minister/ President
<del>-</del>	Application Submission	Accepts and assigns Application Number in the format Serial No./Year [eg 01/09217/09.]     Sends Application copy to ZGS			
	Application Verification		Checks on  Area for overlaps etc.  Work programme  Budget  Company profile  Minerals sought  Technical expertise  Expected results		
က်	Application Noting		Recommends Applications to be noted after above assessment	Based on available information application is NOTED or REJECTED	
4	Application Gazettal	Reserves area.     Draft General notice sent to Attorney General for checking		Publishes checked notice in Government Gazette for objections within 21 days.	
rų (	Application Consideration	Invites Company to appear before MAB for interview		Interview conducted     Consideration for recommendation     or rejection made	
ف	Application recommendation and Approval	<ul> <li>Assigns EPO No. eg 4886</li> <li>Prepares Cabinet minute to President, Supporting memo and draft General Notice of Order,</li> <li>Draft Notice sent to AG's Office</li> </ul>			General Notice sent to Minister an recommendation is made to the President for approval,
7.	EPO Gazettal	Approved General Notice sent for Gazettal.     Approved Order sent to Applicant			
∞i	EPO Work Monitoring	Receives Six-monthly progress reports     Sends copies to ZGS.	Evaluates six-monthly reports.     Visits exploration sites.     Makes recommendations to MAB.     Compiles geo-technical data from EPO's	Accepts or rejects continuation of exploration work.	

## **MAB Criteria for Processing EPO Applications**

- 4.3 In making the recommendation the Board considers the following):-
  - the applicant(s)' background;
  - corporate structure;
  - that the applicant is a fit and proper person to obtain an Order and is of adequate financial standing to undertake such operations under ar EPO;
  - that it would not be against national interest to make such an order;
  - the applicant's programme of work; and
  - technical expertise;
- 4.4 The EPO is transferable with recommendations from the President.

# 5.0 SPECIAL GRANT FOR COAL AND ENERGY MINERALS(PART XX)

### **Procedure**

- 5.1 Application is made to Secretary, MAB who:-
  - acknowledges receipt by date-stamping and assigning it an application no. e.g. SG 1/09, SG2/09, SG3/09 denoting the sequence ir which they were received and the year received)
  - also checks fulfillment of legal requirements of the application.

## **Criteria for Recommending Special Grant Applications**

- 5.2 The MAB considers every application brought before it and reports thereon to the Minister with its recommendations, whether the application should be granted or refused.
- 5.3 In consideration of the application the MAB looks for the following:-
  - the background of the applicant(s);
  - their programme of work;
  - proof of technical expertise;
  - whether the applicant is a fit and proper person to be issued with a special grant;
  - the financial status of the applicant; and
  - whether it would be in the national interest to issue the special grant.

# 6.0 PROCEDURE AND CRITERIA FOR OBTAINING SPECIAL GRANT: OTHER MINERALS (PART XIX)

6.1 In terms of Sections 291 up to 296 of the afore mentioned Act, special grants are issued for all minerals except Coal, Mineral Oils and Natural Gas which are issued under part XX of the Act.

### **Procedure**

- 6.2 Application is done to the Permanent Secretary through the PMDs.
- 6.3 Application requirements:
  - Completed application form
  - Company documents
  - Project document
  - Location map

# 7.0 OTHER PERMITS ISSUED BY THE MINISTRY

# **Certificates for Registration as an Approved Prospector**

- 7.1 An applicant should:
  - be 18 years old,
  - a Zimbabwean,
  - pay a non-refundable prescribed application fee.
- 7.2 The certificate is valid for 5 years from date of issue or renewal unless previously cancelled or suspended.

# Registration/Renewal as a Custom Milling Center (SI 329,2002; SI 178,2006)

7.3 Every Custom Milling Plant must be registered before it can operate.

- 7.4 Renewal of Custom Milling Licenses is done every 12 months through the Provincial Mining Director for the province under which they are registered.
- 7.5 Registration and/ or renewal requirements are as follows:
  - The Custom Mill shall pay a renewal fee as prescribed in the relevant schedule of fees.
  - The Custom Mill shall obtain an Environmental Impact Assessment Certificate (EIA) from the Environmental Management Agency before commencing operations.
  - The Mill shall be inspected by the Regional Mining Engineer, Regional Surveyor and Regional Metallurgist approved by the Director for Metallurgy.
- 7.6 Once the Mill complies with these and other requirements, the Secretary shall issue a Registration or Renewal License whichever the case may be.

### **Gold Jewellery Permit Requirements**

- 7.7 Procedure is as follows:
  - Vetting by Police,
  - Inspection of premises by team comprising of Department of Mining Law, Mining Promotion and Development and C.I.D.
  - Stating of annual weight of gold required & names and addresses of sources of such gold e.g. Fidelity Printers and Refiners,
  - Clearance by Jewellery Council of Zimbabwe (applicant becomes a full member of this council),
  - Payment of a prescribed annual fee (licence is valid for 5 years)

# License to Deal in Precious Stones (In Particular to Cut And Polish Rough Diamonds)

### 7.8 Requirements are as follows:

- Vetting by Police,
- Inspection of premises by team comprising of Department of Mining Law, Mining Promotion and Development and C.I.D for suitability of premises & diamond security,
- Submission of company profile, and:
  - a. Certificate of Incorporation,
  - b. Memorandum of Association
  - c. Articles of Association
  - d. Directorship & Shareholding structure,
  - e. Tax clearance
  - · List of equipment

NB. Application is made to the Permanent Secretary and the license is valid for 10 years

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# SUMMARY OF PROCEDURES OF ACQUIRING A MINING TITLE

License	AREA	Minerals	APPLICANT REQUIREMENT	LENGTH OF TENURE
Ordinary / Special prospecting licence (IV)	<ul> <li>10ha precious metal/stone</li> <li>25ha base metal</li> </ul>	All	<ul> <li>Any person above the age of 18 years of age permanently resident in Zimbabwe</li> <li>A company duly registered in Zimbabwe</li> </ul>	2 years
Exclusive Prospecting Order (VI)	• 65 000ha • Any defined area (including Reserved)	All except Coal	Any person     Corporate body	Initial period of 3 years Renewable for a maximum period of 3 years
Mining Lease (VIII)	Amalgamation of contiguous mining location	All	Holder of registered mining location	Perpetual Annual renewal
Special Mining Lease	As Mining Lease	All	<ul> <li>Holder of registered mining location</li> <li>Investment in Forex exceeding</li> <li>Mine output intended mainly for export</li> </ul>	Perpetual Annual renewal
Special Grant (XIX)	Any defined area	All	Any person     Area to be situated in reserved ground	Perpetual Annual renewal
Special Grant under Part XX of Act (XX)	20 000ha for coal, 100 000ha for CBM and Natural Gas	Coal, Mineral Oils, Natural gas	<ul> <li>Any person</li> <li>Area to be situated in reserved ground</li> <li>Intention to mine Coal, Mineral Oils,</li> <li>Full information on</li> <li>Financial status</li> <li>Technical expertise</li> </ul>	Perpetual Annual renewal

## **DETAILS REQUIRED IN APPLYING FOR A MINING TITLE**

TITLE	APPLICATION DET AILS REQUIRED	Approving	PROCESSING
(Part of Act)		Authority	PERIOD
Ordinary / Special	<ul><li>Full name and address</li><li>Payment of appropriate fees</li></ul>	Legal Services	Instant (over the counter)
prospecting licence	<ul> <li>For individuals</li> <li>Applicant to be above 18 years</li> <li>National ID Card required</li> </ul>		
(IV)	For companies - Certificate of registration		
Exclusive	<ul><li>Proposed works programme</li><li>Area description</li></ul>	President	3 months
Prospecting	<ul><li>Certificate of incorporation</li><li>Details of Directors</li></ul>		
Order (VI)	Company shareholding structure		
Mining Lease (VIII)	<ul> <li>List of minerals to be mined</li> <li>Sketch plan of area</li> <li>Details of reef blocks in the area</li> <li>List of mining locations contained</li> <li>Name and address of land owner</li> </ul>	Mining Affairs Board	3 months
Special Mining Lease (IX)	<ul> <li>List of minerals to be mined</li> <li>Sketch plan of area</li> <li>Details of reef blocks in the area</li> <li>List of mining locations contained</li> <li>Name and address of land owner</li> <li>Development plan</li> <li>Operation plan of proposed mine</li> </ul>	Mining Affairs Board	3 months
Special Grant (XIX)	<ul><li>Sketch plan of area</li><li>Work programme</li></ul>	Secretary for Mines and MD	2 months
Special Grant under Part XX	<ul> <li>Full information of financial status</li> <li>Full information of technical expertise</li> <li>Particulars of guarantees</li> <li>Mineral to be mined</li> <li>Sketch plan of area</li> <li>For a company, full names,</li> <li>nationality of directors</li> </ul>	President	3 months
	Work programme		

#### **CONTACT DETAILS**

The Secretary for Mines and Mining Development

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### Zimbabwe Geological Survey

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